WHAT IS CLAIMED IS:

1. An orthogonal frequency division multiplexing (OFDM) transmitter, comprising:

a training sequence generator configured to generate a training sequence that includes a fractional tone in a guard band thereof; and

OFDM transmission circuitry, coupled to said training sequence generator, configured to transmit said training sequence via a channel.

2. The transmitter as recited in Claim 1 wherein said fractional tone is located in a center of said guard band.

3. The transmitter as recited in Claim 1 wherein said fractional tone is attenuated at a decibel level selected from the group consisting of:

at about twelve decibels from tones in a data band of said training sequence; and

at about six decibels from tones in a data band of said training sequence.

4. The transmitter as recited in Claim 1 wherein said fractional tone is positive in sign.

5. The transmitter as recited in Claim 1 wherein said guard band is free of excited tones other than said fractional tone.

6. An orthogonal frequency division multiplexing (OFDM) receiver, comprising:

OFDM reception circuitry configured to receive, via a channel, a training sequence that includes a fractional tone in a guard band thereof; and

a channel estimator, coupled to said OFDM reception circuitry, configured to employ said fractional tone to obtain a channel response estimate.

7. The receiver as recited in Claim 6 wherein said fractional tone is located in a center of said guard band and said channel estimator interpolates remaining tones of said guard band.

8. The receiver as recited in Claim 6 wherein said fractional tone is attenuated at a decibel level selected from the group consisting of:

at about twelve decibels from tones in a data band of said training sequence; and

at about six decibels from tones in a data band of said training sequence.

9. The receiver as recited in Claim 6 wherein said guard band is free of excited tones other than said fractional tone and said channel estimator linearly interpolates remaining tones of said guard band.

10. The receiver as recited in Claim 6 wherein said channel estimator is further configured to interpolate a DC tone based on adjacent tones of said training sequence.

11. A method of obtaining a channel response estimate for use with an orthogonal frequency division multiplexing (OFDM) communications system, comprising:

generating a fractional tone in a guard band of a training sequence;

transmitting said training sequence via a channel; and

employing said fractional tone to obtain a channel response estimate.

12. The method recited in Claim 11 wherein said fractional tone is generated in a center of said guard band and said employing includes interpolating remaining tones of said guard band.

13. The method recited in Claim 11 further comprising attenuating said fractional tone at a decibel level selected from the group consisting of:

at about twelve decibels from tones in a data band of said training sequence; and

at about six decibels from tones in a data band of said training sequence.

14. The method recited in Claim 11 wherein said generating includes generating a fractional tone in a plurality of guard bands of said training sequence.

15. The method recited in Claim 11 further comprising interpolating a DC tone based on adjacent tones of said training sequence.

16. An orthogonal frequency division multiplexing (OFDM) communications system, comprising:

an OFDM transmitter that generates a training sequence that includes a fractional tone in a guard band thereof and transmits said training sequence via a channel; and

an OFDM receiver that receives said training sequence and employs said fractional tone to obtain a channel response estimate.

17. The communications system as recited in Claim 16 wherein said fractional tone is located in a center of said guard band and said OFDM receiver interpolates remaining tones of said guard band.

18. The communications system as recited in Claim 16 wherein said fractional tone is attenuated at a decibel level selected from the group consisting of:

at about twelve decibels from tones in a data band of said training sequence; and

at about six decibels from tones in a data band of said training sequence.

19. The communications system as recited in Claim 16 wherein said fractional tone is positive in sign.

20. The communications system as recited in Claim 16 wherein said OFDM transmitter generates a fractional tone in a plurality of guard bands and said OFDM receiver employs at least one of said fractional tones to obtain said channel response estimate.

21. The communications system as recited in Claim 16 wherein said OFDM receiver interpolates a DC tone based on adjacent tones of said training sequence.